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## DEVELOPMENT INNOVATION VENTURES NEW AWARDS

In 2021, DIV made 26 new multi-year awards to innovators and researchers developing, testing, and scaling cost-effective, evidence-based innovations in 7 sectors and 15 countries around the world. Since 2010, DIV has supported 252 awards totaling \$172 million.

Here are Development Innovation Ventures (DIV) new awards:

### **DELIVERING CRITICAL INFORMATION, INPUTS, AND MARKET LINKAGES TO ONE MILLION SMALLHOLDER FARMERS IN LATIN AMERICA**

#### **ACCESO**

Stage 2: \$1,495,800  
Mexico, El Salvador, Haiti | 2021–2024

Despite progress in recent decades, nearly one quarter of the rural population in Latin America and the Caribbean (LAC) face extreme poverty. Most of the 60 million smallholder farmers across LAC are disconnected from information critical for decision-making, such as weather forecasts and market prices

for crops, and lack access to quality markets to buy agricultural inputs or sell outputs. Social agribusiness builder Acceso has joined forces with digital agriculture innovator and previous DIV Stage I grantee Extensio to develop a comprehensive approach to support farmers by combining specialized digital agriculture information with access to inputs, financing, and guaranteed yield purchases. With support from Development Innovation Ventures, Acceso will strengthen its proprietary technology platform and farmer services, test new business models and partnerships, improve its data capacity to better monitor the impact of its services on farmer behaviors, and further analyze the cost-effectiveness of its model. Acceso will also conduct a randomized controlled trial in El Salvador to rigorously evaluate the impact of information alone and in combination with inputs and yield purchases for farmers. This evaluation will determine the most effective way to scale their new partnership-based business model. Acceso anticipates that these efforts will result in 100,000 farmers connected to its digital service and 25,000 to its market access model. Acceso expects its customers will substantially improve their productivity and income by 2024.

## **PROVIDING ACCESS TO ENERGY TO ENABLE ACCESS TO FINANCE**

### **BAOBAB+**

Stage 2: \$1,500,000

Democratic Republic of the Congo, Senegal | 2021-2024

Only nine percent of the Democratic Republic of Congo (DRC) has electricity—one of the lowest rates in the world. Many of the 11 million households that lack electricity depend on expensive and pollutive small-scale diesel generators as well as charcoal and wood. These standard energy sources deplete the DRC's forests and often require long distance travel to get supplies—a burden that typically falls on women and children. In addition, a large proportion of the population of sub-Saharan Africa lacks access to credit—74 percent in the DRC and 80 percent in Senegal—due to a lack of collateral or a credit history to secure loans. To increase access to reliable and renewable energy sources for lighting, communication, and cooling, social enterprise Baobab+ provides pay-as-you-go solar home systems and other solar products that are accessible to all, including those at the base of the pyramid. Since 2015, Baobab+ has served 1.3 million people in four countries in Africa with solar home systems and products. To increase access to finance in sub-Saharan Africa, Baobab+, in partnership with its microfinance parent company, the Baobab Group, complements its energy business by offering nano loans to customers with successful records of paying down their solar product loans. With support from Development Innovation Ventures, Baobab+ is establishing operations in the DRC and expanding its nano-loan pilot in Senegal. Baobab+ plans to extend access to energy to 18,000 households in DRC and provide access to finance to 8,200 households in Senegal over three years.

## **A MEDIA EXPERIMENT TO REDUCE INTIMATE PARTNER VIOLENCE IN BANGLADESH**

### **BRAC UNIVERSITY JAMES P. GRANT SCHOOL OF PUBLIC HEALTH**

Stage 2: \$368,000

Bangladesh | 2021-2024

Intimate partner violence (IPV) is a pervasive problem affecting one in three women worldwide, yet its drivers are complex and poorly understood. Bangladesh has one of the highest rates of IPV in the world,

which has only been exacerbated by the COVID-19 pandemic; BRAC Bangladesh estimates that IPV incidents increased by 70 percent from 2020 to 2021. However, few interventions have been shown to meaningfully improve the social norms or behaviors of male abusers. To reduce incidence of IPV, BRAC University's James P. Grant School of Public Health (JPGSPH) in Bangladesh will design two edutainment campaigns that target abusive behavior perpetrated by men: one focused on norms that aims to influence attitudes about gender, and the other focused on resilience that aims to improve anger management and nonviolent coping skills. These campaigns build upon research on edutainment, norms change, and Cognitive Behavioral Therapy from Uganda and Liberia, and the media content is adapted from campaigns that reached 7.4 million men and women across several countries in the Middle East and Asia. With support from Development Innovation Ventures, JPGSPH will refine the campaigns and conduct a randomized controlled trial (RCT) in both public and private settings to test the effectiveness of each on its own and in combination. The RCT will help measure the impact of the interventions on beliefs about IPV, non-violent coping skills, and rates of victimization, as well as the cost-effectiveness of this low-cost edutainment approach in comparison with in-person group therapy. This study is expected to reveal key drivers of IPV and identify relatively inexpensive solutions that may inform future development programs and policies globally.

## **INCREASING THE PRODUCTIVITY OF SMALLHOLDER FARMS THROUGH MOSAIC AGRICULTURE**

### **CINCH MARKETS**

Stage 2: \$381,000  
Kenya | 2021-2024

Kenya has 4.5 million smallholder farmers, many of whom cannot access the investments needed to significantly improve agricultural yields—such as irrigation or heavy equipment like tractors—because of their high costs and long payback periods. While many agricultural initiatives have resulted in incremental improvements for farmers, few have significantly improved agricultural productivity or farmer incomes. Kenyan startup Cinch Markets is utilizing an entirely different approach to supporting smallholder farmers that has tripled their income in trials to date. By leasing farmers' land from them, aggregating the small plots into larger “mosaic” farms, and making high-return investments in the land that individual farmers are unable to make themselves, Cinch is able to significantly increase the productivity of the land while allowing farmers to retain ownership. With support from Development Innovation Ventures, Cinch will test and simplify its model to prepare it for scale, including by introducing new farm management partnerships, using digital payments, developing low-literacy tools such as interactive voice response (IVR) to partner with farmers, and using solar power to pump water. Cinch anticipates launching three new mosaic farms that could benefit 22,000 individuals by 2024. Once optimized, this innovative smallholder farming approach is expected to scale to improve lives across East Africa.

## **MEASURING THE IMPACT OF NOLKUP: AN APP TO REDUCE EXPOSURE TO ARSENIC IN DRINKING WATER**

### **COLUMBIA UNIVERSITY**

Evidence: \$200,000

Bangladesh | 2021-2024

Toxic levels of arsenic contaminate one-third of tubewells—a type of water well—in rural Bangladesh, affecting the drinking water of up to 100 million people. Traditionally, information about well quality is communicated via costly and lengthy door-to-door information campaigns, if at all. To better help families know which wells are contaminated, Columbia University partnered with NGO Forum to develop the Nolkup (Bangla for tubewell) smartphone app. This location-based app tells the user the arsenic content of tested wells nearby to help them decide where to obtain water. The Government of Bangladesh is responsible for testing wells under its Arsenic Risk Reduction Program and agreed to provide five to ten million well test results to the Nolkup app. With support from Development Innovation Ventures, Columbia University will partner with Innovations for Poverty Action to run a randomized controlled trial to test whether this convenient technology informs people about tubewell water quality more quickly and affordably than door-to-door campaigns. The RCT results will inform government efforts to more efficiently inform citizens about water quality.

## **MINDSPARK: PERSONALIZED LEARNING IN INDIAN PUBLIC SCHOOLS**

### **EDUCATIONAL INITIATIVES**

Stage 2: \$1,500,000

India | 2021-2024

Despite increased school enrollment, improved infrastructure, and better nutrition, learning outcomes among children in India remain poor, and socio-economically disadvantaged public school students lag behind expected grade-level competencies. This lag leads to gaps in learning levels within classrooms, creating a challenge for teachers to meet all students' needs. As learning gaps worsen over time, students falling behind their peers tend to drop out of school. To enable individualized instruction in classrooms with limited resources, education technology company Educational Initiatives (Ei) developed Mindspark, a personal adaptive learning (PAL) software that identifies individual student learning levels in math, the predominant local language, and English through diagnostic tests. It then provides targeted instruction to help students learn at a level and pace most appropriate for them. Mindspark is India's only rigorously tested PAL software and has demonstrated significant and cost-effective learning gains in independent evaluations, including a randomized controlled trial. Mindspark has been used by 500,000 students and is available in nine languages on tablets, laptops, and computers. With support from Development Innovation Ventures (DIV), Ei will make Mindspark accessible to students in public schools, reaching 40,000 students and 1,000 teachers across 200 government day schools over three years. Ei will also undertake A/B testing of different implementation strategies to identify best practices. The project will build upon investments by state governments and better position Ei to scale Mindspark across at least 5,000 government schools in India.

## **KARTU PRAKERJA: EVALUATING INDONESIA'S JOBS TRAINING AND CASH TRANSFER PROGRAM**

### **HARVARD UNIVERSITY**

Evidence: \$1,382,140

Nearly two-thirds of Indonesia's 270.2 million people struggle to meet their immediate needs for food and other basics, largely due to underemployment and skills gaps that prevent workers from entering the formal economy. To address employment challenges, the Government of Indonesia launched a social assistance program in 2020 that provides temporarily unemployed people—such as those who were laid off or small business owners who were impacted by the COVID-19 pandemic—with money and online vocational training. This program, known as Kartu Prakerja (KP) (Indonesian for pre-employment card), builds on a large body of research on vocational training and cash transfers that aim to help individuals find gainful employment, meet their needs, and invest in their families' futures. Since the inception of the program, nearly 29 million individuals have applied to KP and 5.9 million have been randomly selected to participate in it. Because this program is new, little is known about its effects. To explore the potential impact of the program, an international team of economists and researchers coordinated by Harvard University is conducting an at-scale impact evaluation of the program in partnership with the Government of Indonesia. With support from Development Innovation Ventures, the team will improve the rigor of the study by expanding it to include a second round of surveys of the control group of 10,000 people who do not receive KP benefits. Researchers will also run two randomized controlled trials to test the relative effects of several features of KP. This research will generate critical evidence on this massive social protection program and inform policymakers in other countries seeking to ease pandemic-related and other relatively short-term economic hardships through effective social assistance programs.

## **WEATHERING THE STORM: IMPROVING FOOD SECURITY THROUGH ACCURATE WEATHER FORECASTS**

### **IGNITIA**

Stage 2: \$1,500,000

Ghana, Nigeria, Burkina Faso, Côte d'Ivoire | 2021–2023

Weather is the most significant cause of crop yield loss for smallholder farmers. Yet in sub-Saharan Africa, 54 percent of surface weather stations and 71 percent of upper-air weather stations do not report accurate data that farmers can use to make decisions about their land. Meanwhile, climate change has disrupted weather patterns that smallholder farmers have relied on for generations. As weather becomes less predictable, farmers need more accurate information about rainfall and fast-developing storms, as well as advice on the best times to plant seeds and apply fertilizer and other inputs. To improve farmer crop yields and income, Swedish company ignitia developed accurate, actionable weather forecasts that provide highly localized tropical weather patterns. The forecasts are delivered on ignitia's iska text message service, which has two million subscribers and a 97 percent retention rate. Farmers pay as little as \$0.04 per forecast message to receive information that influences key decisions during the growing season. With support from Development Innovation Ventures (DIV), ignitia is testing and refining its business model in multiple geographies. In Nigeria, ignitia will test a new business-to-business-to-consumer (B2B2C) model to reach farmers who could benefit from improved weather forecasting and related information in new markets. In Burkina Faso and Côte d'Ivoire, ignitia will expand its core business-to-consumer (B2C) model and services to reach more customers through its partnership with telecommunications company Orange. In Ghana, ignitia will test the use of local languages to communicate weather information, as well as more sophisticated weather alerts and

actionable advice to subscribers. DIV funding will also support a randomized controlled trial in Ghana conducted by ignitia's partner, Innovations for Poverty Action, which will work with researchers from Northwestern University to evaluate the impact of ignitia's service on farmers, including changes in practices, yields, and incomes. With this award, ignitia anticipates that by 2024, it will gain 400,000 new subscribers who will increase their crop yields by an average of at least 20 percent through the service. Ignitia builds on past USAID-supported work through the Securing Water for Food Grand Challenge for Development.

## **IN2CARE® EAVE TUBES FOR MOSQUITO CONTROL**

### **IN2CARE BV**

Stage 2: \$1,498,437

TBD | 2021-2024

To prevent mosquitoes from entering homes, Dutch company In2Care BV developed EaveTubes, which are ventilation tubes that are placed in walls to attract, block, and kill mosquitoes. EaveTubes have netting coated with insecticide powder, making them capable of killing even highly insecticide-resistant mosquitoes. Malaria remains one of the most severe and fatal mosquito-borne diseases impacting the developing world today, causing approximately 229 million disease cases and 409,000 deaths each year. While existing approaches to control mosquitoes, including indoor residual spraying and insecticide-treated nets, have made significant progress, innovative tools are still needed. When compared to bed nets, In2Care's initial randomized controlled trial (RCT) in Côte d'Ivoire showed a 47 percent reduction in malaria cases among clusters where more than 70 percent of houses received EaveTubes and household screening. The RCT also showed that EaveTubes have the potential to be equally or more cost-effective than standard approaches. With support from Development Innovation Ventures, In2Care will partner with researchers to conduct an RCT to test the impact and cost-effectiveness of EaveTubes as a standalone mosquito control intervention (without screening) in comparison to bed nets. If promising, the RCT results will help position EaveTubes for WHO approval, and help unlock funding from governments and bilateral donors to scale EaveTubes globally. In2Care estimates that EaveTubes could protect between six to nine million people against malaria over the next five years.

## **HELPING THE GOVERNMENT OF GHANA TO SCALE UP TARGETED INSTRUCTION OF STUDENTS**

### **INNOVATIONS FOR POVERTY ACTION (IPA)**

Stage 2: \$1,284,800

Ghana | 2021-2024

Although 91 percent of children in Ghana are enrolled in primary schools, the 2016 National Education Assessment showed fewer than 25 percent of pupils in primary grades 4 and 6 were considered competent in mathematics and only 37 percent were competent in English. The assessments also found that differences in learning levels within a classroom were three times larger than the average skills gap between grade levels. Students who have not developed foundational skills fall further behind and learning gaps between students grow each year. To improve the foundational learning of low-performing

students, Ghana’s Ministry of Education (MoE) is scaling up an evidence-based, cost-effective teaching curriculum known as Targeted Instruction (TI), or “differentiated learning.” Instead of following the traditional curriculum, TI uses a simple test to assess children’s learning levels, then teaches them based on learning levels rather than age or grade using engaging, level-appropriate methods and materials. Multiple studies have consistently shown TI to be a cost-effective approach to improve learning. The MoE plans to scale TI to reach 1.8 million children across 10,000 of Ghana’s lowest performing schools over five years, but to do so successfully, it must ensure that all teachers implement the project as designed. With support from Development Innovation Ventures (DIV), Innovations for Poverty Action (IPA) will help build capacity within the MoE and Ghana Education Services to ensure adherence to the TI program as it scales. IPA will establish systems to track metrics on the effectiveness of TI and incorporate them into national and regional education dashboards, and develop a monitoring, evaluation, and learning system to inform decision-making. DIV will also support IPA to conduct rapid evaluations of teacher training and management variations to improve implementation quality at scale. IPA’s work will ensure that this cost-effective and evidence-based methodology maintains impact as it scales, and can help address the learning gap caused by the COVID-19 pandemic.

## TESTING AN AFFORDABLE HANDHELD SPECTROMETER

### INNOVATIONS FOR POVERTY ACTION (IPA)

Stage 2: \$344,312  
Nigeria | 2021-2024

Low quality and counterfeit products threaten consumer safety and hinder economic growth in developing countries. More than 10 percent of medicines in developing countries are of low-quality and lead to approximately \$21 billion in damages, annually. To accurately detect low-quality substances, RxAll developed the RxScanner, a handheld spectrometer that detects the quantity of chemical compounds present in a substance or product, including medicines, and uses proprietary artificial intelligence connected to a central database to identify compounds and send a report to the user. The RxScanner is small enough to be used at a point of sale, such as a pharmacy, and costs less than traditional laboratory tests. The device produces results in real time and is easy to use in remote, low-resource settings by people with limited technological skills. 160 scanners are currently in use in Nigeria, which scan medicines for 80,000 customers monthly, preventing unsafe counterfeits from reaching customers. With support from Development Innovation Ventures, RxAll will partner with Innovations for Poverty Action to conduct a randomized controlled trial that measures the effectiveness of the RxScanner and will help determine its scalability and investment worthiness. RxAll has the potential to be a cost-effective and scalable tool to protect consumers and ensure access to higher quality products. Within three years, RxAll intends to scale its RxScanner across Nigeria, where it will reach 200 million people.

## ADDRESSING INTIMATE PARTNER VIOLENCE: THE REAL MAN CHALLENGE IN PERU

### INNOVATIONS FOR POVERTY ACTION (IPA)

Stage 1: \$200,000

Peru | 2021-2024

Nearly one in three women globally have experienced intimate partner violence (IPV), with incidence increasing during the COVID-19 pandemic. However, few interventions have been demonstrated to effectively prevent IPV and even fewer approaches have targeted men. To reduce the incidence of IPV, Innovations for Poverty Action (IPA), in partnership with Peru's Ministry of Women and Vulnerable Population, the International Rescue Committee, the Inter-American Development Bank, and researchers from Duke University and Harvard University, is piloting the Real Man Challenge (RMC). The RMC recruits influential men to host conversations about what it means to be a "real" man on a group chat social media platform. The RMC builds on a similar program in Liberia that was shown to increase men's ability to self-regulate while shifting women's attitudes from justifying violence. With support from Development Innovation Ventures, IPA will conduct a pilot and rigorous impact evaluation to test the effectiveness of this low-cost, scalable, technology-based intervention. If effective, this model of the RMC has the potential to reach millions of couples across Latin America.

## DIGITAL SOLUTIONS FOR ACCESS TO LABOR JUSTICE

### INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO (ITAM)

Stage 2: \$715,000

Mexico | 2021-2024

More than 400,000 formal workers and 1.2 million informal workers in Mexico City lose their jobs in a typical year and the vast majority are entitled to significant severance benefits under Mexican labor law. However, most don't get it: 60 percent claim that they did not get severance when fired. Only nine percent seek redress through the court system, while the other 91 percent choose not to sue either because they lack information about the legal system or believe it is too expensive to sue. Among those that sue, more than half lack money for food just two months after being fired. Furthermore, suing is no guarantee of redress: workers that sue receive at trial close to half of what the law mandates. To increase access to information for both claimants and lawyers and to improve efficiency of the market for lawyers, the Instituto Tecnológico Autónomo de México (ITAM) worked with the Mexico City's Labor Court (MCLC) to develop a web-based, open source automated courts system. With support from Development Innovation Ventures, ITAM will improve the online claims filing user experience, refine measures of lawyer performance, and determine which information the case tracking platform should provide to claimants for optimal results. Maintenance of the improved automated courts system is expected to cost less than \$2.50 per case filing, much less than the cost that would be required to hire sufficient court staff to decrease case backlogs. This automated system aims to help efficiently resolve more than 100,000 cases currently in the courts and support more than 40,000 new cases per year going forward, resulting in more dismissed workers accessing their benefits. Once optimized, this efficient and low-cost system has the potential to scale to many other Mexican cities and federal courts.

## IMPROVING THE EFFICIENCY OF TEACHING IN INDIA'S GOVERNMENT SCHOOLS

### ABDUL LATIF JAMEEL POVERTY ACTION LAB (J-PAL) SOUTH ASIA AT IFMR

Evidence: \$392,924

India | 2021-2024

Despite high enrollment rates and increased government spending for education, primary school students in India perform below grade-level standards in reading and mathematics. A learning assessment in more than 100,000 schools across India found that 82 percent of fourth grade students are not proficient in their level of mathematics, while 75 percent of eighth grade students were also not proficient at the same fourth grade level of understanding. With more than 1.4 million schools in India, one key challenge is the implementation and adoption of high-quality teacher training at scale. To improve student performance in math and reading, Indian NGO Sampark Foundation developed a teacher training program known as Smart Shala, which means Smart School. Smart Shala's core model includes five low-cost teaching-learning materials: a sound box, 3-D teaching and learning materials, board games, multimedia workbooks, and a teacher training app. It is complemented by in-person training and on-site monitoring by Sampark or local government staff. Sampark has partnered with public schools to implement Smart Shala in six states in India. With support from Development Innovation Ventures, the Abdul Latif Jameel Poverty Action Lab (J-PAL) South Asia at the Institute for Financial Management and Research is conducting a randomized control trial (RCT) that will compare the results of standard public school instruction with the results of two models of Smart Shala: one in which Sampark employees monitor and coach teachers, and the other in which government employees serve as monitors and coaches. The RCT results will inform Sampark's work with the government to scale the most cost-effective model of Smart Shala to reach an additional ten million children by 2026.

## NURTURING PARENTS AND CHILDREN WITH REACH UP AND LEARN

### ABDUL LATIF JAMEEL POVERTY ACTION LAB (J-PAL) SOUTHEAST ASIA

Stage 1: \$200,000

Indonesia | 2021-2024

More than 40 percent of preschool-aged children are estimated to be at risk of low cognitive and socioemotional development. Not achieving one's developmental potential is linked to a 26 percent annual loss of average adult income, trapping families in poverty. Although many global research studies have shown the positive impact and return on investment of high-quality early childhood care and education (ECCE) programs for parents and children, most were studied in small-scale settings with professional trainers. More research is needed to examine the effectiveness—including cost-effectiveness—of scaled up ECCE programs. To further establish this evidence base, the Abdul Latif Jameel Poverty Action Lab (J-PAL) Southeast Asia is adapting the Reach Up and Learn program to the Indonesian context. Reach Up and Learn has supported the short- and long-term development of more than 100,000 children in 18 countries worldwide, as demonstrated by nearly 20 randomized controlled trials (RCTs) that show significant and lasting evidence of impact. In Reach Up and Learn, trained facilitators show parents how to engage their young children, and introduce inexpensive and homemade toys and picture books to stimulate and enrich their children's development. With support from Development Innovation Ventures, J-PAL Southeast Asia will partner with researchers from Rutgers

University, Bangor University, and the National Team for the Acceleration of Poverty Reduction (TNP2K) to conduct a pilot RCT that examines the effectiveness of the core Reach Up program and the Reach Up program plus extra support for and engagement of fathers, as compared to programs currently offered in the community. These findings will directly inform the design of a large-scale trial and future rollout of Reach Up and Learn in Indonesia at scale, which may reach 275,000 children by 2025.

## **AN E-COMMERCE STARTUP ENABLING HAITIAN DIASPORA TO DELIVER FOOD AND GOODS TO LOVED ONES**

### **JETLI TRANSFER**

Stage 1: \$200,000  
Haiti | 2021-2024

Haiti is the poorest country in the Western Hemisphere, with more than half of its population living below the poverty line of less than \$2.41 per day. The country relies on increasingly expensive imported goods and an estimated 3.7 million Haitians—one-third of the population—need food assistance. Haitians around the world, including the one million Haitians living in the United States, remit—or transfer—more than \$3 billion annually to family and friends in Haiti. Food is the number one purchase Haitians make with the remittances they receive. Jetli Transfer, a Haitian-American owned company, contributes to food security by providing the Haitian diaspora with a safe and reliable delivery service that supplies households with basic food and other products they might otherwise struggle to obtain. With support from Development Innovation Ventures, Jetli Transfer is testing its business model for scale to underserved provinces, optimizing order and delivery options, conducting customer insight research, and expanding its marketing and sales strategy. Jetli aims to deliver staples to more than 600,000 Haitians over the next five years.

## **SCALING A COMMUNITY-RUN EARLY CHILDHOOD PROGRAM IN GHANA**

### **LIVELY MINDS**

Stage 3: \$3,500,000  
Ghana | 2021-2024

Worldwide, more than 250 million young children—the majority of whom are in low- and middle-income countries—are at risk of not achieving their developmental potential due to poverty, poor health and nutrition, and deficient care and stimulation. To improve early childhood care and education (ECCE) and school readiness, Lively Minds is supporting the Government of Ghana to run parent-led, low-cost, highly effective educational playgroups for children ages four to six. A randomized controlled trial (RCT) on Lively Minds' model found that the Lively Minds ECCE program significantly improves child development, including cognitive, socio-emotional, and health, which are critical components of school readiness. As the government starts to implement the model, Lively Minds is training education officials and teachers to prepare and empower mothers to run playgroups at their children's kindergartens. With support from Development Innovation Ventures, Lively Minds will work with the Government of Ghana to scale the program from six to 36 districts and catalyze funding to reach 60 districts—including 1.2 million children—across the Northern Region by the end of 2028. As the Lively Minds program transitions to scale, the Institute for Fiscal Studies, Yale University, and other

partners will conduct an RCT through a parallel DIV award that explores whether the model's impact holds through at-scale public delivery and examines the key contributors to effectiveness. This award builds on a Stage 2 award DIV made to Lively Minds in 2019 to test and position the approach for scale in Uganda.

## TESTING THE EFFECTIVENESS OF PSYCHOTHERAPY USING MOBILE PHONES

### MAKERERE UNIVERSITY

Stage 2: \$200,000  
Uganda | 2021-2024

In Uganda, 15.5 million people, which is more than one-third of the population, suffer from mental health challenges. The poor in Uganda face various stressors, such as poor infrastructure, underemployment, and financial stress, all of which have been exacerbated by the COVID-19 pandemic as travel restrictions have made it harder to access services. The majority of mental health problems are mild to moderate, making them amenable to treatment by laypersons rather than by licensed medical personnel. Failing to address mental health problems early can lead to long-term issues, including remaining in or falling into poverty. To help alleviate mild to moderate emotional stress before it becomes severe, Makerere University, in partnership with Ugandan telemedicine company The Medical Concierge Group (TMCG), developed a counseling intervention delivered by trained laypersons via mobile phones using call, video, and messaging. The laypersons teach individuals practical skills to cope with and resolve emotional and mental stress. TMCG provides its telehealth services for 40-60 percent less than the cost of traditional in-person services. With support from Development Innovation Ventures, Makerere is conducting a randomized controlled trial to test the feasibility, acceptability, and effectiveness of this intervention relative to standard mental health services to determine whether lay counseling delivered virtually is a cost-effective solution to alleviate mild to moderate emotional stress among low-income populations. If this pilot is successful, TMCG intends to partner with insurance companies and the Government of Uganda to scale subsidized technology-enabled mental health services at low or no cost across the country.

## SHAMBA SHAPE UP: THE FARM MAKEOVER SHOW

### MEDIAE GROUP LTD

Stage 2: \$1.5 million  
Uganda | 2021-2024

Millions of farmers in low-resource settings could benefit from information about farming techniques that will help them improve yields, make more efficient use of water, manage pests, and increase farm income. To help Ugandan farmers improve their agricultural food production, Mediae Group Ltd developed an edutainment television show that reaches millions of farmers for just \$0.55 per farmer, much faster and cheaper than traditional extension services. After 10 seasons running in Kenya, Shamba Shape Up! (shamba means field or farm in Swahili) currently reaches 12 million viewers, and has enabled millions of farmers to improve their operations in very practical and achievable ways. With support from Development Innovation Ventures (DIV), Mediae is entering the Ugandan market with 44 new episodes over two seasons. DIV will also support a randomized controlled trial (RCT) to test the direct and

indirect effects of Shamba Shape Up!, including how audiences share information they learn from the program and how it influences farmer behavior and yields. Mediae is conducting the RCT in partnership with researchers at the Università Commerciale Luigi Bocconi's Laboratory for Effective Anti-Poverty Policies (LEAP) and Innovations for Poverty Action (IPA). Through this expansion, Shamba Shape Up! expects to reach 1.25 million households and benefit nearly six million rural Ugandans.

## PLANNING FOR PRODUCTIVE MIGRATION IN NIGER

### MERCY CORPS

Stage I: \$200,000  
Niger | 2021-2022

Niger exemplifies the challenges facing many countries across the Sahel in West Africa. Climate change and conflict threaten the agricultural livelihoods that previously sustained the rural households that make up more than 80 percent of the population. Niger ranks among the poorest countries in the world, as 45 percent of people live below a poverty line of \$1.90 per day. Instability inhibits agricultural investments and local trade. Seasonal migration has been a long-standing coping strategy used in the Sahel in general and in Niger—particularly in the region of Tahoua—to mitigate the effects of climate change and the impact of increasing insecurity. To help Nigerien migrants safely and legally increase their incomes through temporary, seasonal migration to larger cities or neighboring countries, Mercy Corps, in partnership with Stanford University's Immigration Policy Lab (IPL), developed the Planning for Productive Migration (PPM) package, which includes five interventions: access to information and social networks to learn how to stay safe and find work, training families to plan for migration and establish expectations, smartphone and mobile money training to send remittances, training in soft skills for the labor market, and a \$100 travel subsidy. With support from Development Innovation Ventures, Mercy Corps and IPL will field test PPM in Tahoua, Niger and assess migrants' progress and attrition. Lessons from this PPM pilot will set the stage for a larger-scale randomized controlled trial in 2022 designed to rigorously evaluate the potential impact of migration relative to traditional development approaches.

## PRACTICAL INNOVATIONS IN ENTREPRENEURIAL MICROFINANCE

### NATIONAL BUREAU OF ECONOMIC RESEARCH (NBER)

Stage I: \$200,000  
India | 2021-2024

Millions of people use microfinance to grow small businesses—including 90 million in India alone—but a 2015 meta-study of microfinance randomized controlled trials concluded that economic impact, while sometimes modestly positive, has not been transformative. Factors encouraging low defaults (e.g., loan size, fixed repayment, and interest rate structure) have not evolved substantially since the 1970s. However, microcredit that is designed to allow borrowers to undertake high-return, long-term entrepreneurial investments may be more effective at increasing income. To help microentrepreneurs access credit that can truly transform their livelihoods, the National Bureau of Economic Research is bringing together researchers from the Harvard Business School and partners from Sanghamithra Rural Financial Services to develop and test new microfinance loans with personalized terms. With support from Development Innovation Ventures, the team will test, refine, and standardize new variations of

microfinance loans into a personalized credit product that is designed to help businesses grow sustainably. The project will identify and survey high potential microentrepreneurs to gauge their interest in personalized credit, learn about their investment plans and ambitions, and use this information to design and offer loans with personalized terms. An evidence-based, personalized microfinance product has the potential to be scaled by microfinance institutions to reach more microentrepreneurs around the world.

## **EVERY CHILD COUNTS! A GAMES-BASED PRE-SCHOOL MATH CURRICULUM**

### **PRATHAM USA**

Stage 2: \$504,276  
India | 2021-2023

Many children in India are not ready for primary school: recent national studies find 36 percent of first graders in rural areas cannot even recognize single-digit numbers. Evidence shows that achievement gaps between low and high-performing children widen steadily over time and few children who start behind their peers ever catch up. To help prepare young children for success in primary school, the NGO Pratham is applying lessons from decades of research on how children learn to develop simple, low-cost games that engage children's natural math capacity to improve their formal math skills. Proven highly effective by multiple randomized controlled trials, the Math Games program requires only 45-minute sessions, three times per week and can be effectively delivered by lightly-trained volunteers or government teachers. With support from Development Innovation Ventures, Pratham will expand Math Games for young children from Tamil Nadu to three more states: Delhi, Himachal Pradesh, and Punjab. As Math Games continues to scale, it has the potential to significantly improve the foundational skills of 2.8 million children. This award is made in parallel with a Stage 2 award DIV made to the Abdul Latif Jameel Poverty Action Lab (J-PAL South Asia) at the Institute for Financial Management and Research in 2020.

## **MEASURING THE IMPACT OF INFORMATION: EVALUATING THE 3-2-1 SERVICE**

### **VIAMO**

Evidence: \$1,500,000  
Ghana, Uganda | 2021-2024

International organizations have spent millions of dollars on low-cost, scalable phone-based information systems across many development sectors, but there is little evidence of their effectiveness. To collect evidence on the efficacy of such information systems, Viamo is testing its 3-2-1 Information Service, which delivers free, expert-approved messages to 30 million mobile phone users across 18 countries on a variety of topics, including agriculture, education, and health. These on-demand messages use human-centered design to increase users' understanding of vital information. With support from Development Innovation Ventures, Viamo will develop new content for the 3-2-1 Service and run a large-scale randomized controlled trial in Uganda and Ghana to explore the impact of this behavior change technology within the context of maternal health and family planning. Women in the treatment group will receive a personal introduction through an in-person visit, demonstration of Viamo's 3-2-1 service, and ongoing promotional text messages and calls, while women in the control group will receive

only standard promotional text messages. This large-scale evaluation will test the effectiveness of phone-based information services on behavior change, and determine whether the 3-2-1 Service is a cost-effective and scalable solution to help individuals make decisions that improve their lives.

## **EVALUATING A COMMUNITY-RUN EARLY CHILDHOOD PROGRAM IN GHANA**

### **YALE UNIVERSITY**

Stage 2: \$1,500,000

Ghana | 2021-2024

More than 250 million young children worldwide—the majority of whom are in low- and middle-income countries—are at risk of not achieving their developmental potential due to poverty, poor health and nutrition, and deficient care and stimulation. To improve early childhood care and education (ECCE) and school readiness in Ghana, Lively Minds is partnering with the Government of Ghana to scale its low-cost ECCE program, through which local officials and kindergarten teachers are trained to teach and empower mothers in the community to run educational playgroups for children ages four to six. A randomized controlled trial (RCT) of Lively Minds’ model in Ghana found that it significantly improves child development, including cognitive, socio-emotional, and health outcomes, which are critical components of school readiness. While some ECCE programs have been successful in the pilot stage or with significant international technical and donor support, less is known about how programs perform when they are operated by governments and at scale. With support from Development Innovation Ventures, Yale University will lead a research team from the Institute for Fiscal Studies, the University of Ghana, the University of Pennsylvania, and Innovations for Poverty Action to conduct an RCT that explores whether the Lively Minds model continues to be effective as it transitions to government ownership and scales to reach more than one million students. The study will further explore how the playgroups affect other childhood development outcomes, such as nutrition, and the key contributors to the model’s impact and cost-effectiveness. This award is made in parallel with a Stage 3 DIV award made to Lively Minds in 2021 to scale in Ghana.

## **PAYDASH: IMPROVING LAST-MILE ACCESS TO INFORMATION ON SOCIAL PROGRAM DELIVERY**

### **YALE UNIVERSITY**

Stage 2: \$635,000

India | 2021–2024

India’s Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a critical safety net, providing rural households up to 100 days of paid manual labor annually. In 2019-2020, more than 50 million households participated in MGNREGA with a 45 percent increase in program participation during the COVID-19 pandemic. When it functions well, MGNREGA stimulates economic activity and provides employment during agricultural downturns. However, workers wait an average of 53 days, and as many as 160 days, to receive payments, making it difficult to align income with expenses and incur debt. Delays also incentivize exploitation of marginalized people as local leaders often “front” payments to MGNREGA workers awaiting their wages, only to take a disproportionately large share in return once wages arrive. To better track payment processing through the bureaucracy, Government of India

officials partnered with researchers from Yale University and software programmers to develop a data dashboard called PayDash. PayDash is a free and user-friendly tool that tracks payment processing and approvals throughout the bureaucratic chain, making key information more accessible, clear, and actionable so government officials can immediately find the cause of and address delays. An initial randomized controlled trial (RCT) in Madhya Pradesh and Jharkhand showed that the use of PayDash among bureaucrats significantly reduced delays for MGNREGA's 7.7 million workers. Yale is now conducting an RCT in Bihar to test whether information provided to elected officials and bureaucrats increases PayDash's effectiveness for the state's 4.7 million MGNREGA participants. With support from Development Innovation Ventures, Yale will complete the ongoing Bihar RCT, update the PayDash platform, and train government officials and technology staff to use and maintain PayDash, which will enable it to scale sustainably. This study will provide critical evidence on how PayDash can be deployed most effectively as it expands to other states, and the tool stands to change the landscape of other cash transfer programs in India.

## **ELECTRIC MOTORCYCLE TAXIS AND NETWORK OF SOLAR CHARGING STATIONS**

### **ZEMBO MOTORCYCLE SMC LTD**

Stage 2: \$790,028  
Uganda | 2021–2024

In Uganda, more than 600,000 boda-bodas (motorcycle taxis) carry out more than a million trips every day. Boda-bodas are affordable and often the only transportation option available for many Ugandans, especially the poor, but are among the biggest contributors to air pollution in Uganda. Further, despite being the second-largest employment category in the Ugandan economy, many boda-boda drivers do not earn sufficient income and struggle with expensive fuel and maintenance. To increase driver incomes and provide a cleaner transportation option, Ugandan company Zembo produces and commercializes electric motorcycles (e-motos) on pay-as-you-go leases that are complemented by a “batteries-as-a-service” model through its convenient network of battery stations. Drivers can recharge or swap batteries throughout the day, much like they would fill up at a gas station. Zembo estimates that drivers using their e-motos experience an increase in take-home pay of approximately 65 percent, and a University of Michigan study finds a more than 90 percent reduction in harmful pollutants from Zembo's e-motos relative to traditional gas motos. With support from Development Innovation Ventures, Zembo is investing in research and development to automate and grow their network of battery swapping stations, improve battery functionality and compatibility, and improve operations by hiring new staff for critical roles. By the end of its three-year award, Zembo anticipates putting more than 1,000 e-motos on the road.